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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,926

02/06/2004

Howard Morgenstern

34298

8861

7590

03/09/2006

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EXAMINER

PAREKH, NITIN

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,926

Applicant(s)

MORGENSTERN ET AL.

Examiner

Nitin Parekh

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01-11-06 has been entered. An action on the RCE follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toy et al. (US Pat. 5982038) in view of Zhou (US Pat. Application Pub. 2002/0005574).

Regarding claims 1-3 and 6-8, Toy et al. disclose a cover/enclosure for hermetically sealing an electronic module/microsystem (see Fig. 1 and 2), the enclosure comprising:

- a substrate (10 in Fig. 1) whereupon the components of the electronic package/microsystem are located
- a single piece/rigid cover (see 20 in Fig. 1) including walls, a top and a cavity (see 22 and 20 and the cavity in Fig. 1) wherein the walls and the top are each made of a continuous piece of metal/material (Col. 5, Lines 19-24)
- a solder seal/structure (23 in Fig. 1 and 25) interposed between the single piece cover and the substrate in order to facilitate creating a hermetically sealed cavity defined by the single piece/rigid lid/cover and the substrate for enclosing the package

(Fig. 1 and 2; Col. 4, line 65- Col. 5, line 56).

Toy et al. fail to teach the solder seal being in a form of solder preform.

Zhou teaches a cover for hermetically sealing an electronic module/microsystem (see Fig. 5; sections 0045-0054) having a single piece cover (see 400 in Fig. 5) including walls wherein a single solder/solder preform (not numerically referenced in Fig. 5) is interposed directly between the single piece cover and the substrate in order to provide a corrosion resistant and a hermetically sealed cavity for enclosing the microsystem, the solder preform including a conventional gold-tin solder (section 0054). Zhou further teaches the single piece cover having a gold plating over a nickel plating, the thickness of the platings being approximately in a range of 0.000050-0.00015 inches (see section 0047).

It would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the solder perform being directly interposed between the cover and the substrate, the cover including a layer of gold-plating of approximately at least 0.000075 inches thick over a layer of nickel-plating approximately at least 0.000050 inches thick as taught by Zhou so that the bonding, adhesion, corrosion resistance and reliability can be improved and processing can be simplified in Toy et al's enclosure.

4. Claims 4, 5 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toy et al. (US Pat. 5982038) and Zhou (US Pat. Application Pub. 2002/0005574) as applied to claims 1 and 6 above, and further in view of Stark (US Pat. 6759590) and Leung et al. (US Pat. 6661090).

Regarding claims 4, 5 and 9-11, Toy et al. and Zhou teach substantially the entire claimed structure as applied to claims 1-3 and 6-8 above, except the solder perform having a thickness of thickness of approximately 0.003 inches and a composition of approximately 80% gold and 20% tin respectively.

Stark et al. teach a hermetically sealing electronic package/microsystem (102/302 in Fig. 1-3 and 11) using an eutectic gold-tin solder wherein the solder layer has a thickness in a range of 6 microns/0.002 inches- 101 microns (about 0.04 inches- see Col. 29, lines 20-49).

Leung et al. teach a sealing a lid to a substrate of an electronic package with a gold-tin solder having a composition including 80% gold and 20% tin (see 430 in Fig. 4d Col. 3, line 51- Col. 4, line 30).

It would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the solder perform having a thickness of thickness of approximately 0.003 inches and a composition of approximately 80% gold and 20% tin respectively as taught by Stark and Leung et al. so that the bonding, adhesion and reliability can be improved in Zhou and Toy et al's enclosure.

Response to Arguments

5. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Parekh whose telephone number is 571-272-1663. The examiner can normally be reached on 09:00AM-05:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 571-272-1657. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAN or Public PAG. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAG system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

NP

03-03-06



NITIN PAREKH

PRIMARY EXAMINER

TECHNOLOGY CENTER 2800